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(54) PROTON-CONDUCTIVE POLYMERIC SOLID ELECTROLYTE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a proton-conductive polymeric solid electrolyte which has high proton conductivity over a wide temp. range, possesses excellent adhesion to a substrate and an electrode, is not brittle and has excellent strength.

SOLUTION: This proton-conductive polymeric solid electrolyte is composed mainly of: a polymer prepd. by introducing a sulfonic or phosphoric group into a polymer having in its molecule an arom. ring or nitrogen-contg. ring structure and capable of withstanding a temperature of 250°C or above; and at least one polymer selected from the group consisting of a polymer having a proton conductivity of not less than 10⁻⁵(s/cm) at a relative humidity of 50%, a polymer having a water absorption of not less than 1%, and a polymer having a glass transition temp. of 0°C or below.